USEPA Comment:

1. *As part of the RI report, do you think that the site contamination boundaries might need to be re-drawn? For example, the residential area west of the Church property has not been impacted. It is recommended that a re-draw from Highway 2, north down 2nd Ave., west to the RR tracks and west to Ellis Ave. This would remove the un-impacted properties from the site contamination boundaries.*

Response:

The Site boundary shown on report figures were not revised. The boundary was established by USEPA as part of the AOC and incorporated into the Remedial Investigation/ Feasibility Study Work Plan.

USEPA Comment:

2. *Figure 1-2 – The "underground clay tile remnants" needs to be stated "underground clay tile pipe remnants."*

Response:

The note on Figure 1-2 has been modified "underground clay tile remnants" to "underground clay tile pipe remnants."

USEPA Comment:

3. *Figure 1-3 – This figure should include the clay tile pipe trace.*

Response:

The clay tile pipe trace has been added to Figure 1-3

USEPA Comment:

4. *Figure 5-2 – The 100,000 ppb. There has been no "clean" area documented at St. Clarie Street or the RR tracks.*

Response:

Figure 5-2 has been modified by enclosing the 100,000 ppb contour to include the filled ravine at the upper bluff area and the coal tar dump area at Kreher Park.

USEPA Comment:

5. *Figure 5-4 – The 10,000 ppb isoconcentration lines should be connected from the "court yard" through to the seep area. MW-2R had a total PAH concentration of 10,860 (3/17/05).*

Response:

Figure 5-4 was not modified because the total PAH concentrations at MW-2R for 3/17/05 is 4,530 ppb.

USEPA Comment:

6. Figure 5-5 – The 1,000,0000 ppb isoconcentration lines should be connected from the "court yard" through to the seep/coal tar dump area.

Response:

Figure 5-5 has been modified by enclosing the filled ravine in the upper bluff area and the coal tar dump area in Kreher Park within the 1,000,000 ppb contour. The total PAH concentration at GP-122 at the upper bluff area has also been labeled. The footnote explaining the highest total PAH concentrations at Kreher Park has also been modified to reference the GP-122 data.

USEPA Comment:

7. Figure 5-7 – The "clay tile pipe" from the MGP location to the seep area needs to be included in this drawing.

Response:

The clay tile pipe located in the buried ravine (identified during the 2001 investigation) has been added to Figure 5-7

The following changes (shown in yellow) to the Section 7 of the RI Report have been made in accordance with changes to the final HHRA report.

Executive Summary – Human Health Risk Assessment Results Subsection.

Insert the following as the first paragraph of this subsection.

> The results of the human health risk assessment (HHRA) indicate that only three exposure pathways result in estimated risk levels exceed USEPA's target risk levels: residential exposure pathways (for soil depths between 0 and 3 feet or all soil depths to 10 feet bgs), construction worker exposure pathway (for soil depths between 0 and 10 feet) and worker exposures to indoor air. These include estimates for the reasonable maximum exposure conditions for potential cancer risks (greater than 10^{-4}), and non-cancer risks (greater than a hazard index of 1). These conclusions are based on exposures to soil in the filled ravine area (for residential receptors) and the Kreher Park area (for construction worker receptors), and to indoor air samples collected at NSPW Service Center. Carcinogenic risks based on average exposure conditions indicate that only the residential receptor exposure to soil (all soil depths to 10 feet bgs) are estimated to be at 1×10^{-4}, the upper-end of the target risk range. Noncarcinogenic risks for the residential receptor (for all soil depths to 10 feet bgs) and risks associated with the construction scenario are within acceptable levels. However, residential receptor exposure to subsurface soil is not expected, given the current and potential future land use of the Site. For this Site, residential risks associated with exposures to surface soil (0 to 1 foot bgs) are within the target risk ranges.

The last paragraph of this subsection has been modified as follows:

> Risks to recreational users (surface soil), subsistence fishers (finfish), waders and swimmers (sediments), industrial workers (surface soil), and maintenance workers (surface soil) are all within USEPA's target risk range of 10^{-4} to 10^{-6} for lifetime cancer risk and a target hazard index of less than or equal to 1 for non-cancer risk. However, the cancer risk for waders and swimmers exposed to sediment is greater than the WDNR target risk of 1×10^{-5}.

Section 7.2.2.2 Groundwater Use – First sentence of first paragraph of this subsection has been changed as follows:

> Groundwater contamination is present in both a shallow aquifer and a confined deep aquifer. Currently the shallow groundwater is not used as a potable water source.

Section 7.2.3.4 Analytical Data Used to Evaluate Risk – Footnotes to imbedded table have been changed as follows:

ANALYTICAL DATA USED FOR THE HHRA					
Exposure Scenario	**Soil**	**Sediment**	**Surface Water**	**Air**	**Biota**
Residential	Surface and Subsurface Soil (0-1 foot bgs) (0-3 feet bgs) (0-10 feet bgs)	Not Evaluated	Not Evaluated	Soil Vapor	Not Evaluated
Industrial/Commercial	Surface Soil (0-1 foot bgs)	Not Evaluated	Not Evaluated	Indoor Air	Not Evaluated
Maintenance Worker	Surface Soil (0-1 foot bgs)	Not Evaluated	Not Evaluated	Not Evaluated	Not Evaluated
Construction Worker	Surface and Subsurface Soil (0-10 feet bgs)	Not Evaluated	Not Evaluated	Not Evaluated	Not Evaluated
Recreational	Surface Soil (0-1 foot bgs)	First 0 – 2 feet[a]	All available data[b]	Not Evaluated	Not Evaluated
Subsistence Fishing	Not Evaluated	Not Evaluated	Not Evaluated	Not Evaluated	Fin Fish[c]

[a] Only those 0 – 2 feet sediment locations with four feet or less of surface water cover were used in the HHRA. The data set used to evaluate sediment exposures has been modified from previous versions of the report. This new data reflects two foot drop in the Lake Superior water levels observed in 2007.

[b] Includes both the 2005 RI data and the 1998 SEH data.

[c] Only the edible portions of the fish species evaluated were included in the HHRA.

Section 7.5.1 Risk Characterization Results – Values for adult swimmer, adolescent swimmer, adult wader, and adolescent wader for sediment in the Summary of RME Carcinogenic and Noncarcinogenic Risks table have been changed, and footnote d has been changed as follows:

Summary of RME Carcinogenic and Noncarcinogenic Risks[a]

Receptor	Table	Soil		Oily Materials in Surface Water[d]		Sediment		Oily Materials in Groundwater[d]		Biota		Indoor Air[b, e]	
		CR	HI	CR	HI	CR	HI	CR	HI	CR	HI	CR	HI
Resident	20	**5×10^{-4}**	**15**	–	–	–	–	–	–	–	–		
Recreational Adult	21	4×10^{-6}	0.002	–	–	–	–	–	–	–	–	–	–
Recreational Adolescent	22	2×10^{-6}	0.003	–	–	–	–	–	–	–	–	–	–
Recreational Child	23	1×10^{-5}	0.04	–	–	–	–	–	–	–	–	–	–
Adult Swimmer	24	–	–	9×10^{-2}	6	4×10^{-5}	0.05	–	–	–	–	–	–
Adolescent Swimmer	25	–	–	–	–	2×10^{-5}	0.05	–	–	–	–	–	–
Adult Wader	26	–	–	5×10^{-2}	4	4×10^{-5}	0.05	–	–	–	–	–	–
Adolescent Wader	27	–	–	–	–	2×10^{-5}	0.05	–	–	–	–	–	–
Industrial Worker	28, 29	6×10^{-6}	0.007	–	–	–	–	–	–	–	–	**8×10^{-5}**	3
Maintenance Worker	30	1×10^{-6}	0.001	–	–	–	–	–	–	–	–	–	–
Construction Worker[c]	31	**1×10^{-4}**	**38**	–	–	–	–	**7×10^{-3}**	**59.5**	–	–	**8.34E-03 (KP) 2.14E-05 (UB) 3.29E-02 (FR)**	17152 (KP) 228 (UB) 646601 (FR)
Subsistence Fisher	32	–	–	–	–	–	–	–	–	**1×10^{-4}**	0.01	–	–

[a] No COPCs were identified for soil gas and surface water. Risks based on exposure to these media were not quantified.

[b] For the industrial worker, the air risks were estimated using indoor air data from sample locations NS-GSINDOOR-0405 and NS-GSINDOOR-0705.

[c] For the construction worker, the groundwater risks were calculated using a derived concentration of "oily materials" in groundwater estimated using the laboratory analytical data of the DNAPL samples collected from the product stream recovered from the active free product recovery system for the Copper Falls aquifer.

[d] Represents the linear low dose risks calculated for both the recreational and construction receptors. The non-linear low dose risks are presented in Attachments I1 and I2. Although calculations of the surface water risks associated with exposures to the 1998 SEH data were completed (Attachment K), only the oily slicks risk results are presented since they represent the most conservative approach.

Risks in bold are greater than the USEPA range for acceptable risk (1×10^{-4} to 1×10^{-6}). Cancer risks that are underlined are greater than the Wisconsin Department of Public Health threshold of 1×10^{-5}.

KP – Calculated using the Virginia Department of Environmental Quality Equation 3-8: Exposure of Workers to Volatiles in a Construction/Utility Trench (Groundwater less than 15 feet deep). Maximum detected concentrations in groundwater from Kreher Park were used as the exposure point concentration. Detailed calculations for this exposure pathway are presented in Attachment J.

UB – Calculated using the Virginia Department of Environmental Quality Equation 3-8: Exposure of Workers to Volatiles in a Construction/Utility Trench (Groundwater less than 15 feet deep). Maximum detected concentrations in groundwater from the Upper Bluff were used as the exposure point concentration. Detailed calculations for this exposure pathway are presented in Attachment J.

FR – Calculated using the Virginia Department of Environmental Quality Equation 3-8: Exposure of Workers to Volatiles in a Construction/Utility Trench (Groundwater less than 15 feet deep). Maximum detected concentrations in groundwater from the Filled Ravine were used as the exposure point concentration. Detailed calculations for this exposure pathway are presented in Attachment J.

Section 7.5.1 Risk Summary for the Recreational Scenario – in the Risk Summary for Recreational Swimmers Exposure to Sediment and Surface Water subsection, the last sentence of the first paragraph of the *Adult Swimmers Exposed to Oil Slicks in Surface Water* subsection has been changed as follows:

> Risks associated with exposures to oil slicks in surface water were evaluated. This pathway was evaluated because a tar slick was reported and photographed by a citizen. Although no slicks were observed by sample collectors and the subsequent RI data do not indicate notable surface water impacts, the 1998 SEH report calculated unacceptable levels of current and future health risks for workers, trespassers, and people engaged in recreational activities on the site. Since this exposure pathway poses one of the greatest potential health risks at the site, the revised HHRA report includes an evaluation of exposures to "oil slicks" in surface water in addition to the evaluation of the 1998 SEH data (Attachment K).

Section 7.5.1 Risk Summary for the Recreational Scenario – in the Risk Summary for Recreational Swimmers Exposure to Sediment and Surface Water subsection, the first paragraph of the *Adult Swimmers Exposed to Sediment* subsection has been changed as follows:

> Risks associated with exposure to sediment for adult swimmers are a CR of 4×10-5 and an HI of 0.05 for samples collected within Chequamegon Bay. Both the cancer and noncancer risk are below the USEPA target risk range of 10-4 to 10-6 for cancer and an HI of 1 for noncancer endpoints, respectively. However, the cancer risk is greater than the WDNR target risk goal of 1×10-5.

Section 7.5.1 Risk Summary for the Recreational Scenario – in the Risk Summary for Recreational Swimmers Exposure to Sediment and Surface Water subsection, the last sentence of the first paragraph of the *Adolescent Swimmers Exposed to Oil Slicks in Surface Water* subsection has been changed as follows:

> Risks associated with exposures to oil slicks in surface water were evaluated. This pathway was evaluated because a tar slick was reported and photographed by a citizen. Although, no slicks were observed by sample collectors and the subsequent data does not indicate notable surface water impacts, the 1998 SEH report calculated unacceptable levels of current and future health risks for workers, trespassers, and people engaged in recreational activities on the site. Since this exposure pathway poses one of the greatest potential health risks at the site, the revised HHRA report includes an evaluation of exposures to "oil slicks" in surface water in addition to the evaluation of the 1998 SEH data (Attachment K).

Section 7.5.1 Risk Summary for the Recreational Scenario – in the Risk Summary for Recreational Swimmers Exposure to Sediment and Surface Water subsection, the last sentence of the first paragraph of the *Adolescent Swimmers Exposed to Sediment* subsection has been changed as follows:

Risks associated with exposure to sediment for adolescent swimmers are a CR of 2×10-5 and an HI of 0.05 for samples collected within Chequamegon Bay. Both the cancer and noncancer risk are below the USEPA target risk range of 10-4 to 10-6 for cancer and an HI of1 for noncancer endpoints, respectively. However, the cancer risk is greater than the WDNR target risk goal of 1×10-5.

Section 7.5.1 Risk Summary for the Recreational Scenario – in the Risk Summary for Recreational Waders Exposure to Sediment and Surface Water subsection, the first paragraph of the *Adult Waders Exposed to Sediment* subsection has been changed as follows:

Risks associated with exposure to sediment for adult waders are a CR of 4×10^{-5} and an HI of 0.05 for samples collected within Chequamegon Bay. The cancer risk is within the USEPA target risk range of 10^{-4} to 10^{-6} for cancer and noncancer risk is less than the target HI of 1 for noncancer endpoints. However, the cancer risk is greater than the WDNR target risk goal of 1×10^{-5}.

Section 7.5.1 Risk Summary for the Recreational Scenario – in the Risk Summary for Recreational Waders Exposure to Sediment and Surface Water subsection, the first paragraph of the *Adolescent Waders Exposed to Sediment* subsection has been changed as follows:

Risks associated with exposure to sediment for adolescent waders are a CR of 2×10^{-5} and an HI of 0.05 for samples collected within Chequamegon Bay. The cancer risk is within the USEPA target risk range of 10^{-4} to 10^{-6} for cancer and an HI of 1 for noncancer endpoints. However, the cancer risk is greater than the WDNR target risk goal of 1×10^{-5}.

Section 7.5.3.1 Residential Scenario Evaluation – The values in the embedded table following the first two paragraphs of this subsection have been changed as follows:

Receptor	RME Table	RME		CTE Table	CTE	
		CR	HI		CR	HI
Resident (0 – 10 feet soil depth)	20	5×10^{-4}	15	35	1×10^{-4}	5
Resident (0-1 foot soil depth)	33	1×10^{-5}	0.2	36	5×10^{-6}	0.1
Resident (0 – 3 feet soil depth)	34	3×10^{-4}	0.9	37	5×10^{-5}	0.3

Section 7.5.3.3 Surface Water Evaluation – The last sentence of the first paragraph has been changed as follows:

Prior to selecting the COPCs in surface water, all surface water data were evaluated to determine if the data were considered usable for the purposes of estimating risks to recreational receptors. The surface water data reviewed included the 1998 SEH data along with the 2005 high-energy and low-energy data. However, the surface water data from the 1998 SEH report were used to in the quantitative risk assessment because no COPCs were identified in surface water samples collected in 2005.

RI REPORT

ERATA SHEET FIGURES

NORTH

GRAPHIC SCALE

0 75 150 300

(IN FEET)
1 inch = 150 ft.

LEGEND

- NPL SITE BOUNDARY
- SURFACE CONTOUR MAJOR
- SURFACE CONTOUR MINOR
- FENCE LINE
- TREE/SHRUB LINE
- FILLED RAVINE EXTENT (APPROXIMATE)
- UNDERGROUND CLAY TILE PIPE REMNANTS

NOTES

Former MGP features are shown on Figure 1-3.

PROJECT: ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE: FIGURE 1-2
SITE FEATURES

DRAWN BY: DDZ	SCALE: 1" = 150'	PROJECT:	25688375
CHECKED BY: PJS	DATE: 30.JULY.2007	SHEET:	1-2
APPROVED BY: DPT			

URS

10200 INNOVATION DRIVE, SUITE 500
MILWAUKEE, WISCONSIN 53226
414-831-4100

PRENTICE AVENUE

ST CLAIRE STREET

RES.

GARAGES

Shed

NSPW STORAGE YARD

NSPW GARAGE

Purifiers (Sanborn 1901)

Former Gas Holders (Sanborn 1890)

Former gasoline UST (Removed 4-20-95)

Tar Well (LSDP Plan Set)

Former Gas Holders (Sanborn 1901)

Oil Tanks (LSDP) Plan Set

Former in-ground naphtha tank(Sanborn 1901)

Former underground naphtha tanks (Sanborn 1890)

Former gasoline storage tanks (Sanborn 1946 & 1951)

Former Gas Holders (Sanborn 1946)

ASPHALT PARKING LOT

Grass Area

NSPW GARAGE

NSPW MAIN OFFICE

3RD AVENUE

OUR LADY OF THE LAKE SCHOOL

U.S. HIGHWAY NO. 2

632.0Ø 634.0Ø 636.0Ø 638.0Ø 640.0Ø 642.0Ø 644.0Ø 646.0Ø 608.0Ø 612.0Ø 616.0Ø 622.0Ø 626.0Ø 630.0Ø 634.0Ø

OVERVIEW MAP

NORTH

GRAPHIC SCALE

0 30 60 120

(IN FEET)

1 inch = 60 ft.

LEGEND

- NPL SITE BOUNDARY
- SURFACE CONTOUR MAJOR
- SURFACE CONTOUR MINOR
- FENCE LINE
- FILLED RAVINE EXTENT (APPROXIMATE)
- UNDERGROUND PIPE REMNANTS
- UNDERGROUND CLAY TILE PIPE REMNANTS

PROJECT: ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE: FIGURE 1-3
FORMER MGP FEATURES

DRAWN BY:	DDZ	SCALE:	1" = 60'	PROJECT:	25688375
CHECKED BY:	PJS	DATE:	30.JULY.2007	SHEET:	1-3
APPROVED BY:	DPT				

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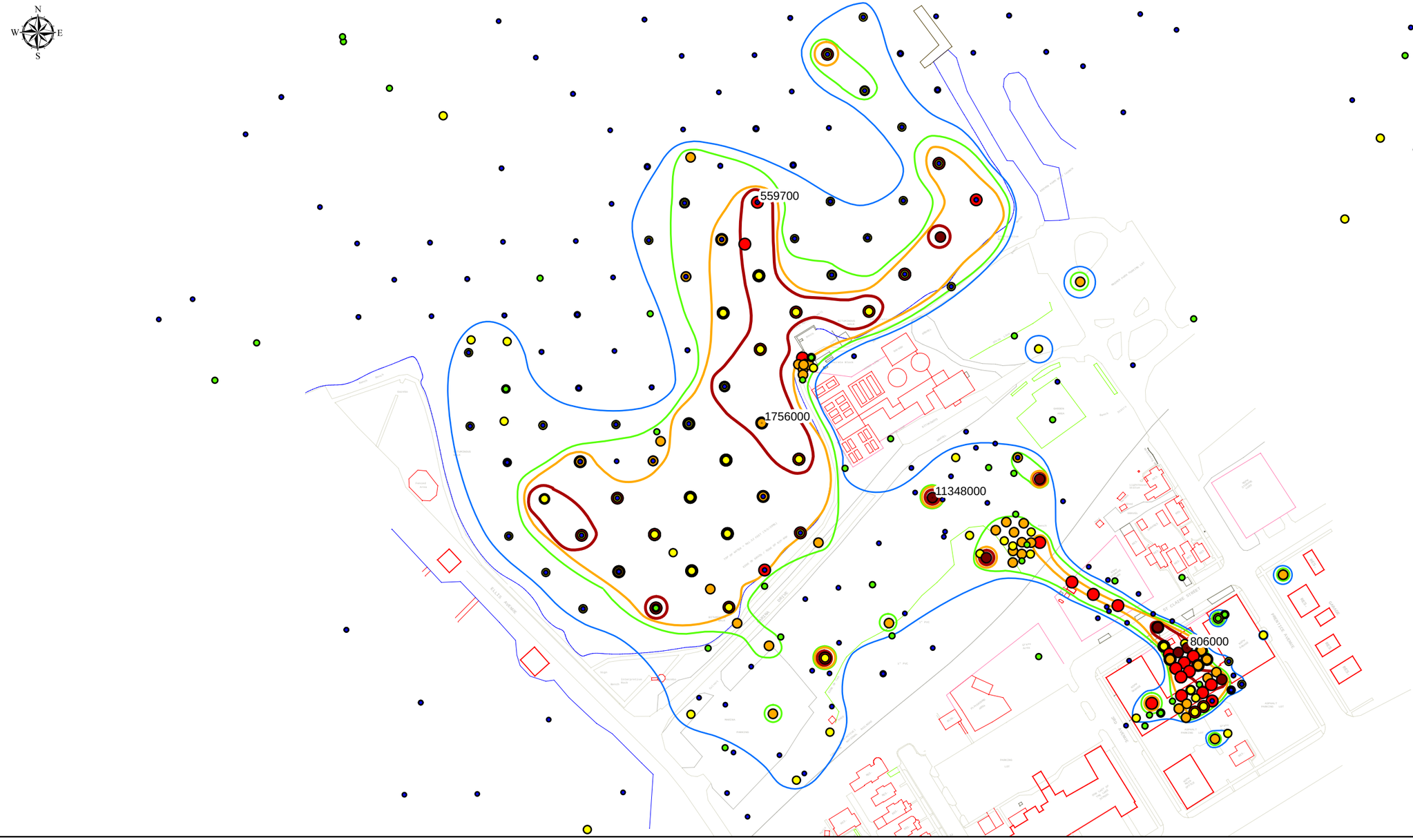

Legend

RI MAX Total VOCs Sediment & Soil

TVOCs_ug/kg

- 0 - 10
- 11 - 100
- 101 - 1000
- 1001 - 10,000
- 10,001 - 100,000
- 100,001 - 1,1348,000

TVOC soil isocontour

TVOC ug/kg

- 100
- 1,000
- 10,000
- 100,000

0 100 200 400 600 800 Feet

Note: Five highest Total VOC concentrations have been labeled.

Total VOCs include benzene, ethylbenzene, styrene, toluene, total xylenes, and 1,2,3-, 1,2,4-, and 1,3,5-trimethylbenzene.

PROJECT:
ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE:
Figure 5-2
Soil & Sediment Isocentration Total VOCs
Upland Soils and Bay Sediments

DRAWN BY:	DDZ	SCALE:	AS SHOWN	PROJECT:	25688375
CHECKED BY:	PJS	DATE:	30.JULY.2007	SHEET:	5-2
APPROVED BY:	DPT				

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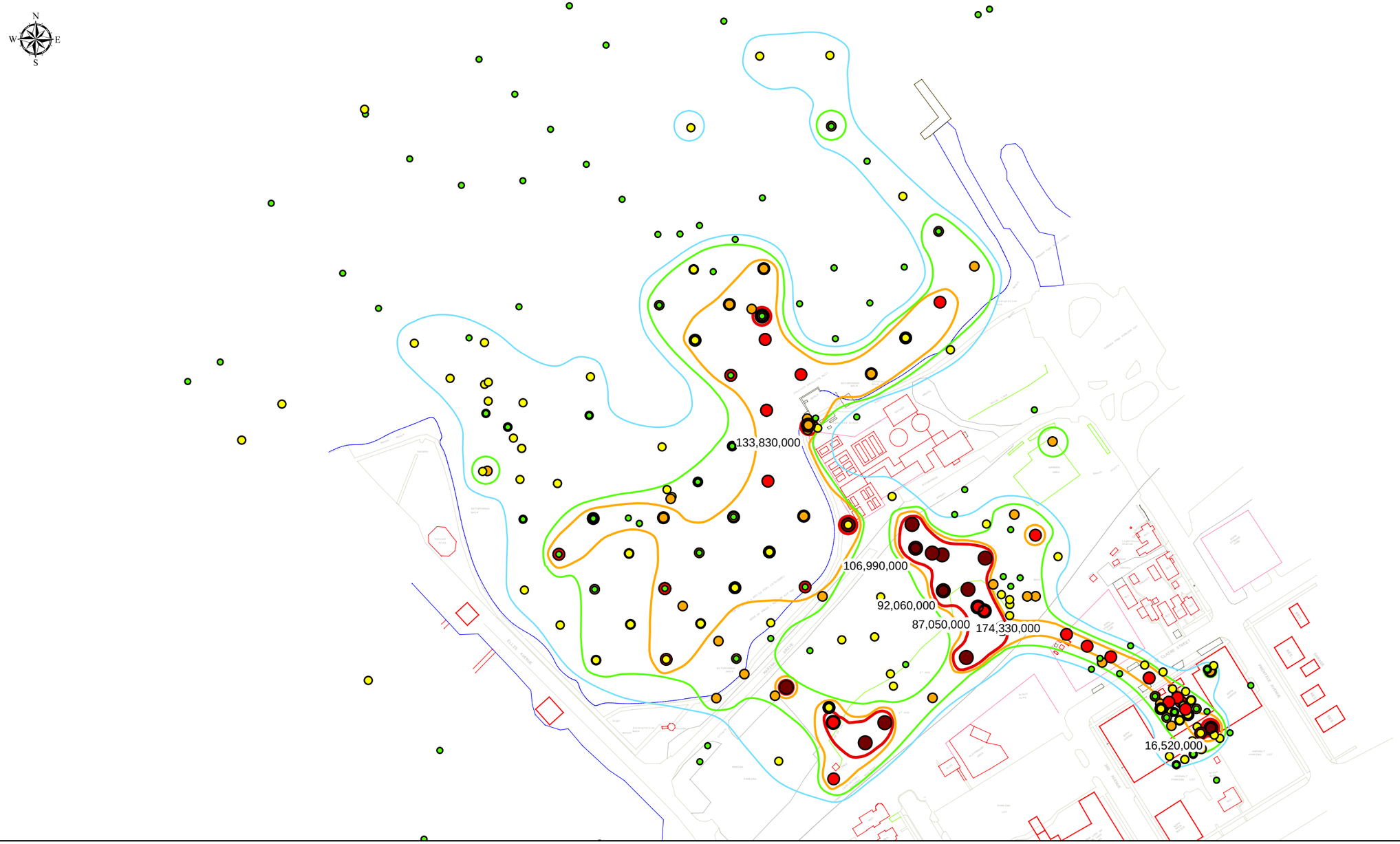

Legend

RI MAX Total PAHs Sediment & Soil

TPAH_ug/kg

- 0 - 1000
- 1001 - 10,000
- 10,001 - 100,000
- 100,001 - 1,000,000
- 1,000,001 - 10,000,000
- >10,000,000

TPAH soil isocontour

TPAH ug/kg

- 10,000
- 100,000
- 1,000,000
- 10,000,000

0 100 200 400 600 800 Feet

Note: Five highest Total PAH concentrations have been labeled, as well as the highest measured Total PAH concentration on the Upper Bluff (GP-122, 16,520,000).

PROJECT: ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE: Figure 5-5
Soil & Sediment Isocentration Total PAHs
Upland Soils and Bay Sediments

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CHECKED BY: PJS	DATE: 30.JULY.2007	SHEET:	5-5
APPROVED BY: DPT			

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414-831-4100

Legend

Test Pit locations

Event Date

- Nov 2005
- June 2005
- Buried pipes
- Clay Tile Pipe Remants

0 37.5 75 150 225 300 Feet

PROJECT:
ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE:
Figure 5-7
Test Pit and Buried Pipe Locations

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CHECKED BY:	PJS	DATE:	30.JULY.2007	SHEET:	5-7
APPROVED BY:	DPT				

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